

# marantz®

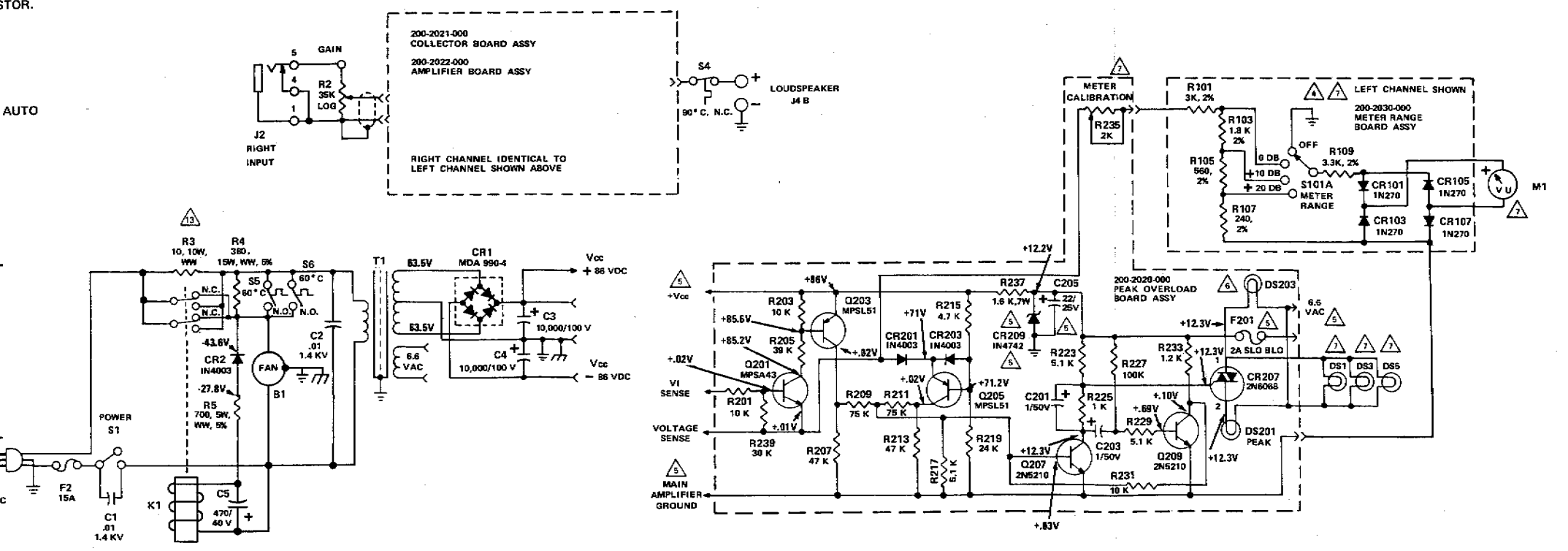
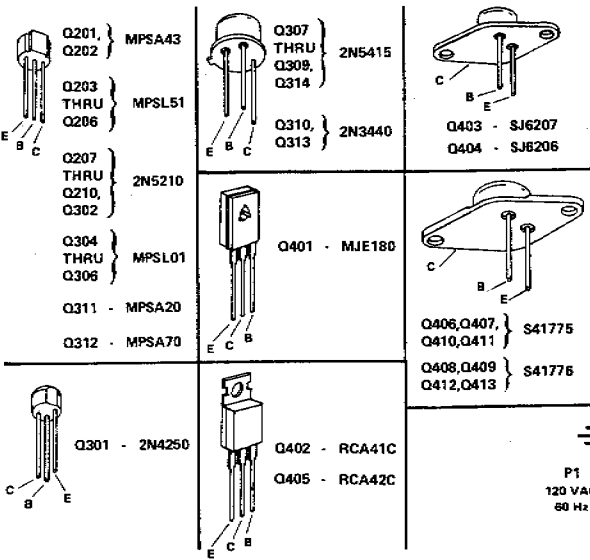
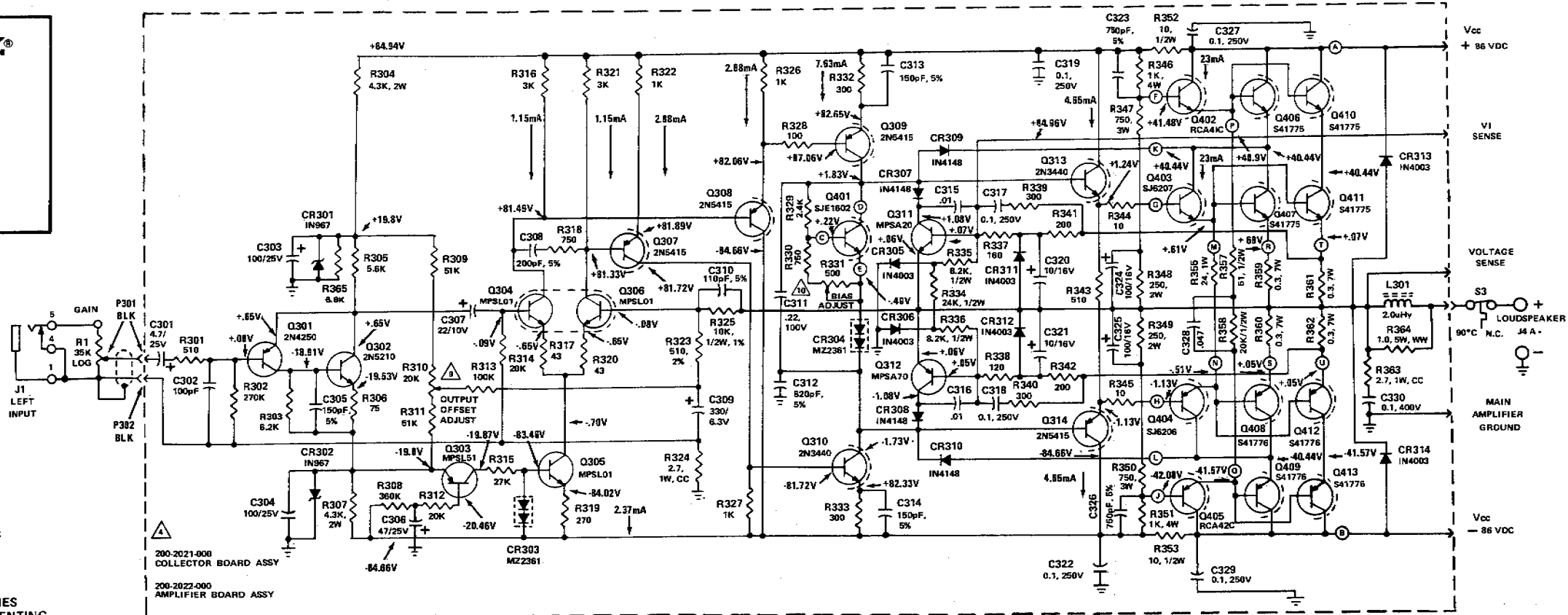
## Model 510/M

### POWER AMPLIFIER

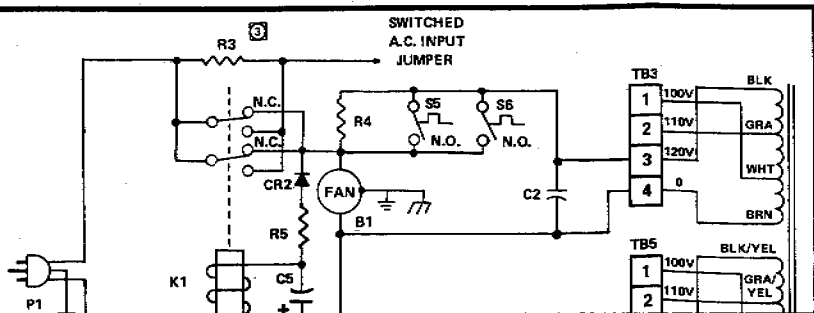
### SCHEMATIC DIAGRAM

NOTES, UNLESS SPECIFIED:

- THIS SCHEMATIC SHOWS LEFT CHANNEL ONLY.
- CAPACITORS IN MFD, 10%. POLARIZED CAPACITORS ARE ELECTROLYTICS.
- RESISTORS IN OHMS, 1/4 WATT, 5%.
- LEFT CHANNEL REFERENCE DESIGNATIONS WHERE APPLICABLE ARE ODD NUMBERS, NEXT HIGHER EVEN NUMBERS ARE RIGHT CHANNEL.
- CIRCUIT OR COMPONENT COMMON TO BOTH CHANNELS.
- USED ON MODEL 510 ONLY.
- USED ON MODEL 510 M ONLY.
- POWER SUPPLY VOLTAGES @ 120 VAC LINE: IDLING (NO SIGNAL APPLIED)  $\pm V_{cc}$  IS 86VDC +5% -0%; FULL POWER (8 OHM LOAD)  $\pm V_{cc}$  IS 77VDC +5% -0%.
- ADJUST R310 FOR 0VDC  $\pm 25$  mV OUTPUT OFFSET.
- ADJUST R331 FOR A 26mV  $\pm 8$ mV DROP ACROSS THE SERIES RESISTANCE (R369 AND R360 OR R361 AND R362) REPRESENTING 30mA TO 57mA QUIESCENT CURRENT PER OUTPUT TRANSISTOR.
- ALL DC VOLTAGES MEASURED AT 120V WITH NO SIGNAL APPLIED AND INPUT JACKS SHORTED
- ALL VOLTAGES MEASURED WITH METER RANGE SWITCH SET AT 0 dB, GAIN CONTROLS SET AT 0 dB ON THE METER.
- RESISTOR R3 MUST BE SHORTED WITH A JUMPER BEFORE AUTO TRANSFORMER IS USED.



| VOLTAGE  | JUMPER NO. 1   | JUMPER NO. 2   | CONNECT SWITCHED A.C. INPUT JUMPER TO | R3 RESISTOR |
|----------|----------------|----------------|---------------------------------------|-------------|
| 240V     | TB3-4 TO TB5-3 | NONE           | TB3-3                                 | 20 ohm, 20W |
| 220V     | TB3-4 TO TB5-2 | NONE           | TB3-2                                 | 20 ohm, 20W |
| 200V     | TB3-4 TO TB5-1 | NONE           | TB3-1                                 | 20 ohm, 20W |
| (CANADA) | NONE           | NONE           | TB3-3                                 | 10 ohm, 10W |
| 110V     | TB3-4 TO TB5-4 | TB3-2 TO TB5-2 | TB5-2                                 | 10 ohm, 10W |
| 100V     | TB3-4 TO TB5-4 | TB3-1 TO TB5-1 | TB5-1                                 | 10 ohm, 10W |

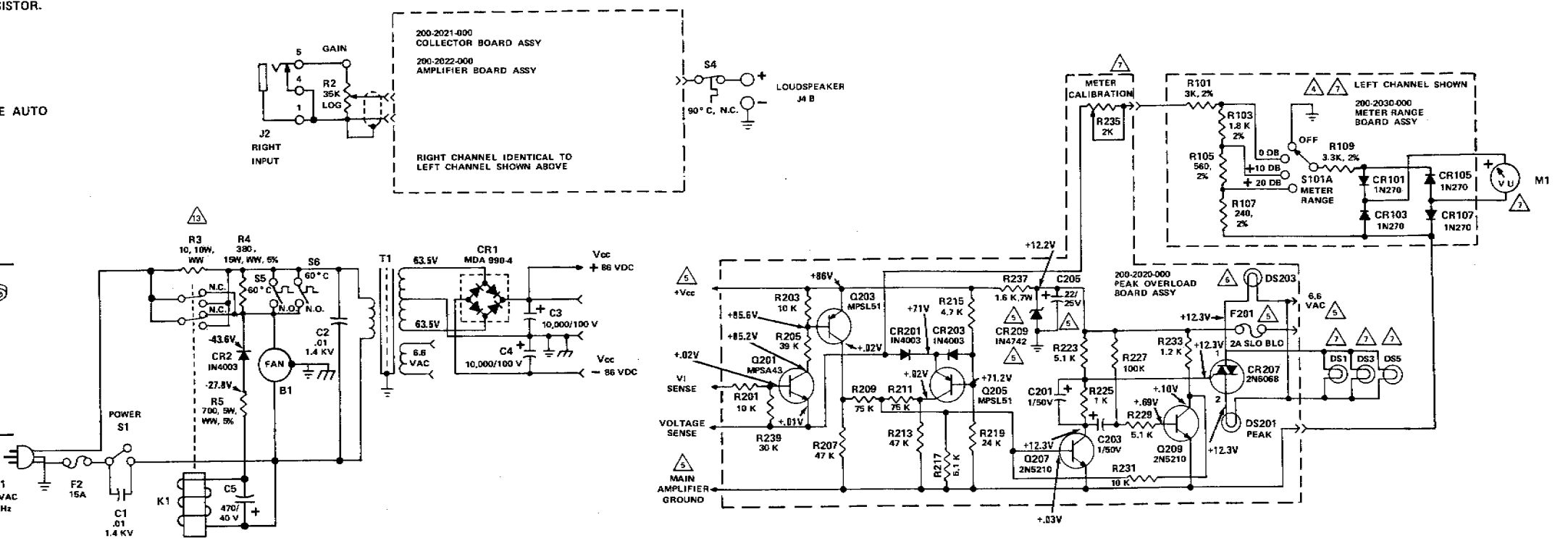
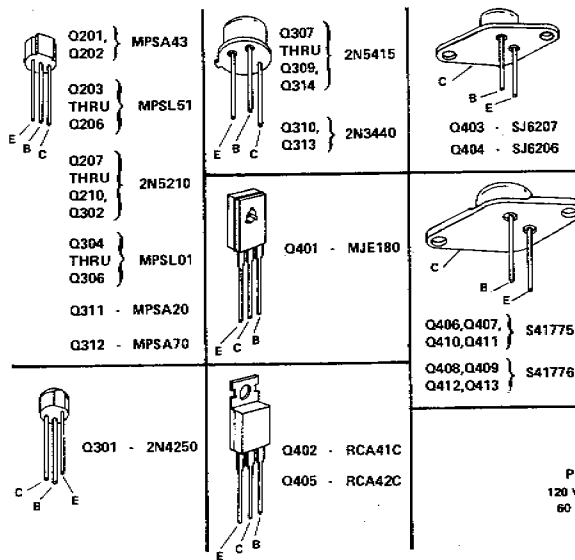
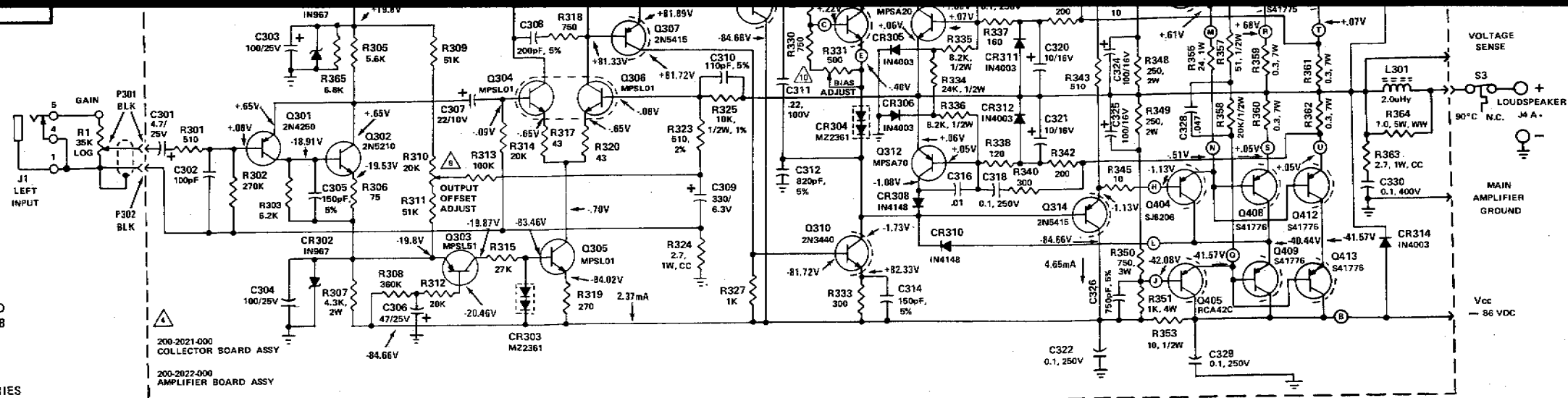


| CHASSIS     | METER RANGE BOARD | PEAK OVERLOAD BD | AMPLIFIER BOARD | COLLECTOR BOARD |
|-------------|-------------------|------------------|-----------------|-----------------|
| 1-99 SERIES | 100 SERIES        | 200 SERIES       | 300 SERIES      | 400 SERIES      |
| C5          | F2                | CR10B            | C205            | C330            |
| CR2         | S6                | R110             | CR209           | CR314           |
| B1          | DS6               | S101B            | F201            | Q314            |

| CHASSIS | METER RANGE BOARD | PEAK OVERLOAD BD | AMPLIFIER BOARD | COLLECTOR BOARD |
|---------|-------------------|------------------|-----------------|-----------------|
| S1      |                   | R235             |                 |                 |
|         |                   | R239             |                 |                 |
|         |                   | R237             |                 |                 |
|         |                   | CR209            |                 |                 |
|         |                   | R217             |                 |                 |

NOTES, UNLESS SPECIFIED:

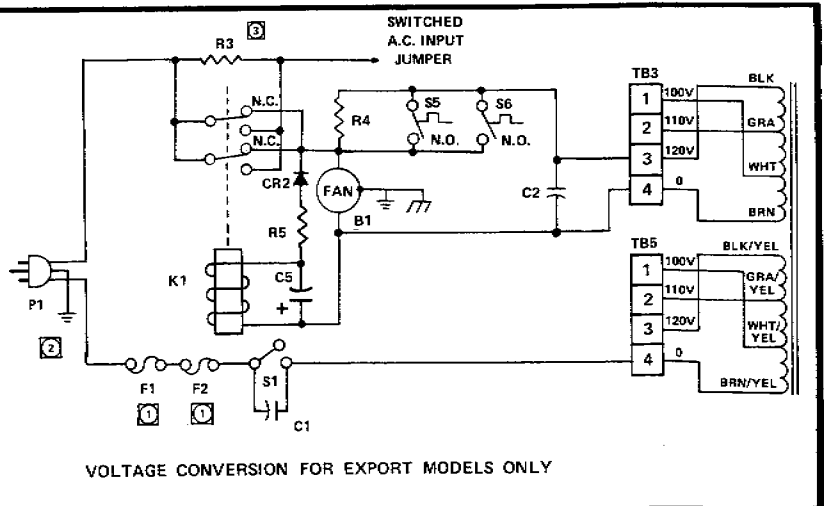
1. THIS SCHEMATIC SHOWS LEFT CHANNEL ONLY.
2. CAPACITORS IN MFD, 10%. POLARIZED CAPACITORS ARE ELECTROLYTICS.
3. RESISTORS IN OHMS, 1/4 WATT, 5%.
4. LEFT CHANNEL REFERENCE DESIGNATIONS WHERE APPLICABLE ARE ODD NUMBERS, NEXT HIGHER EVEN NUMBERS ARE RIGHT CHANNEL.
5. CIRCUIT OR COMPONENT COMMON TO BOTH CHANNELS.
6. USED ON MODEL 510 ONLY.
7. USED ON MODEL 510 M ONLY.
8. POWER SUPPLY VOLTAGES @ 120 VAC LINE: IDLING (NO SIGNAL APPLIED)  $\pm V_{cc}$  IS 86VDC +5% -0%; FULL POWER (8 OHM LOAD)  $\pm V_{cc}$  IS 77VDC +5% -0%.
9. ADJUST R310 FOR 0VDC  $\pm 25$  mV OUTPUT OFFSET.
10. ADJUST R331 FOR A 26mV  $\pm 8$ mV DROP ACROSS THE SERIES RESISTANCE (R359 AND R360 OR R361 AND R362) REPRESENTING 30mA TO 57mA QUIESCENT CURRENT PER OUTPUT TRANSISTOR.
11. ALL DC VOLTAGES MEASURED AT 120V WITH NO SIGNAL APPLIED AND INPUT JACKS SHORTED
12. ALL VOLTAGES MEASURED WITH METER RANGE SWITCH SET AT 0 dB, GAIN CONTROLS SET AT 0 dB ON THE METER.
13. RESISTOR R3 MUST BE SHORTED WITH A JUMPER BEFORE AUTO TRANSFORMER IS USED.



| VOLTAGE  | JUMPER NO. 1   | JUMPER NO. 2   | CONNECT SWITCHED A.C. INPUT JUMPER TO | R3 RESISTOR |
|----------|----------------|----------------|---------------------------------------|-------------|
| 240V     | TB3-4 TO TB5-3 | NONE           | TB3-3                                 | 20 ohm, 20W |
| 220V     | TB3-4 TO TB5-2 | NONE           | TB3-2                                 | 20 ohm, 20W |
| 200V     | TB3-4 TO TB5-1 | NONE           | TB3-1                                 | 20 ohm, 20W |
| (CANADA) | NONE           | NONE           | TB3-3                                 | 10 ohm, 10W |
| 110V     | TB3-4 TO TB5-4 | TB3-2 TO TB5-2 | TB5-2                                 | 10 ohm, 10W |
| 100V     | TB3-4 TO TB5-4 | TB3-1 TO TB5-1 | TB5-1                                 | 10 ohm, 10W |

100V: F1=15A SLO-BLO, F2=15A NORMAL BLO.  
 120V (DOMESTIC): F1 = NOT USED, F2 = 15A.  
 120V (CANADA): \*F1 - 15A, F2 - 12A.  
 220/240V: F1 = NOT USED, F2 - 8A.  
 \*USE F2 FUSE FOR F1 IN CANADIAN CONVERSION.

2 AC LINE CORD FOR 100V UNITS WITHOUT GROUND CONNECTOR.



| CHASSIS     | METER RANGE BOARD | PEAK OVERLOAD BD | AMPLIFIER BOARD | COLLECTOR BOARD |
|-------------|-------------------|------------------|-----------------|-----------------|
| 1-99 SERIES | 100 SERIES        | 200 SERIES       | 300 SERIES      | 400 SERIES      |
| C5          | F2                | CR108            | C205            | C330            |
| CR2         | S6                | R110             | CR209           | CR314           |
| B1          | DS6               | S101B            | F201            | Q314            |
| J4B         | M2                | DS203            | R365            |                 |
| P1          |                   |                  | Q210            | L301            |
| K1          |                   |                  | R240            |                 |
| T1          |                   |                  |                 |                 |

| CHASSIS | METER RANGE BOARD | PEAK OVERLOAD BD | AMPLIFIER BOARD | COLLECTOR BOARD |
|---------|-------------------|------------------|-----------------|-----------------|
| S1      |                   | R235             |                 |                 |
|         |                   | R239             |                 |                 |
|         |                   | R237             |                 |                 |
|         |                   | CR209            |                 |                 |
|         |                   | R217             |                 |                 |

| CHASSIS | METER RANGE BOARD | PEAK OVERLOAD BD | AMPLIFIER BOARD | COLLECTOR BOARD |
|---------|-------------------|------------------|-----------------|-----------------|
| S2      |                   | R238             | R221            | R354            |
| S3      |                   | CR205            | R222            | R356            |
|         |                   | CR206            |                 |                 |

Figure 15. Schematic Diagram